



**Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Classification Attainment Report**

Station Information

Station Number: S-1024 Waterbody: Hacker Brook - Station 1024 Town: Fort Fairfield Directions: 37M ABOVE RIVERSIDE AVE CROSSING/25 M UPSTREAM OF BRIDGE	River Basin: St. John HUC8 Name: Aroostook Latitude: 46° 46' 23.677" N Longitude: 67° 48' 46.174" W Stream Order: 2
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Sample Information

Log Number: 2751	Type of Sample: ROCK BAG	Date Deployed: 7/9/2019
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/5/2019

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 11/12/2019
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 11/5/2019	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>
Class A 0.83	Class C 0.01	Class A, B, or C 1.00
Class B 0.16	NA 0.00	Non-Attainment 0.00
<u>B or Better Model</u>		<u>A Model</u>
Class A or B 0.97		Class A 0.89
Class C or Non-Attainment 0.03		Class B or C or Non-Attainment 0.11

Model Variables

01 Total Mean Abundance	75.00	18 Relative Abundance Ephemeroptera	0.02
02 Generic Richness	31.00	19 EPT Generic Richness	7.00
03 Plecoptera Mean Abundance	3.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.33
04 Ephemeroptera Mean Abundance	1.33	23 Relative Generic Richness- Plecoptera	0.06
05 Shannon-Wiener Generic Diversity	3.51	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	0.67
06 Hilsenhoff Biotic Index	3.80	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.33
07 Relative Abundance - Chironomidae	0.08	28 EP Generic Richness/14	0.29
08 Relative Generic Richness Diptera	0.42	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	0.33		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.54		

Five Most Dominant Taxa

		Rank	Taxon Name	Percent
13 Relative Abundance - Oligochaeta	0.00	1	<i>Optioservus</i>	23.56
15 Perlidae Mean Abundance (Family Functional Group)	0.00	2	<i>Erpobdella</i>	17.33
16 Tanypodinae Mean Abundance (Family Functional Group)	0.67	3	<i>Dubiraphia</i>	15.11
17 Chironomini Abundance (Family Functional Group)	0.67	4	<i>Physa</i>	14.67
		5	<i>Stagnicola</i>	4.44



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature:	16.4 deg C
Dissolved Oxygen:	8.93 mg/l
Dissolved Oxygen Saturation:	91.1 %
Specific Conductance:	396.3 uS/cm
Velocity:	42.7 cm/s
pH:	7.99
Wetted Width:	1.6 m
Bankfull Width:	6.5 m
Depth:	31 cm

Waterbody Information - Retrieval

Temperature:	18.7 deg C
Dissolved Oxygen:	9.8 mg/l
Dissolved Oxygen Saturation:	104.9 %
Specific Conductance:	358.6 uS/cm
Velocity:	6.1 cm/s
pH:	8.13
Wetted Width:	2.2 m
Bankfull Width:	4.8 m
Depth:	24 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Cultivated	Partly Open	Rolling
Pasture		
Upland Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Agricultural Runoff	Below Agriculture NPS	Gravel 50 %
Nutrients		Rubble/Cobble 35 %
Sedimentation		Sand 15 %

Landcover Summary - 2004 Data

Sample Comments

5 BLACKNOSE DACE IN ROCK BAGS



Maine Department of Environmental Protection
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Aquatic Life Taxonomic Inventory Report

Station Number: S-1024

Waterbody: Hacker Brook - Station 1024

Town: Fort Fairfield

Log Number: 2751

Subsample Factor: X1

Replicates: 3

Calculated: 11/5/2019

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Hydra</i>	02010101001	2.33	2.33		PR	3.1	3.1
<i>Erpobdella</i>	08030203002		13.00		--		17.3
<i>Erpobdella obscura</i>	08030203002006	13.00			--	17.3	
<i>Paracapnia</i>	09020203018	1.33	1.33	1	SH	1.8	1.8
<i>Leuctra</i>	09020204020	2.33	2.33	0	SH	3.1	3.1
Calopterygidae	09020307	0.67	0.67		--	0.9	0.9
<i>Calopteryx</i>	09020307043	0.67	0.67	5	PR	0.9	0.9
<i>Maccaffertium</i>	09020402015		0.33	4	SC		0.4
<i>Maccaffertium vicarium</i>	09020402015055	0.33			--	0.4	
<i>Paraleptophlebia</i>	09020406026	1.00	1.00	1	CG	1.3	1.3
<i>Hydropsyche</i>	09020604016	0.33	0.33	4	CF	0.4	0.4
<i>Pycnopsyche</i>	09020610049	2.00	2.00	4	SH	2.7	2.7
<i>Lepidostoma</i>	09020611064	0.33	0.33	1	SH	0.4	0.4
Chironomidae	09021011				--		
<i>Thienemannimyia</i>	09021011020		0.67	3	PR		0.9
<i>Thienemannimyia group</i>	09021011020041	0.67			--	0.9	
<i>Pagastia</i>	09021011025	0.33	0.33	1	--	0.4	0.4
<i>Brillia</i>	09021011033	0.33	0.33	5	SH	0.4	0.4
<i>Corynoneura</i>	09021011036	0.33	0.33	7	CG	0.4	0.4
<i>Heterotrissocladius</i>	09021011044		0.33	0	CG		0.4
<i>Heterotrissocladius marcidus</i>	09021011044083	0.33			--	0.4	
<i>Parametriocnemus</i>	09021011053	0.33	0.33	5	CG	0.4	0.4
<i>Rheocricotopus</i>	09021011057	0.33	0.33	6	CG	0.4	0.4
<i>Micropsectra</i>	09021011070	0.33	0.33	7	CG	0.4	0.4
<i>Rheotanytarsus</i>	09021011072		0.33	6	CF		0.4
<i>Rheotanytarsus exiguus group</i>	09021011072127	0.33			CF	0.4	
<i>Stempellinella</i>	09021011074	1.00	1.00	2	--	1.3	1.3
<i>Tanytarsus</i>	09021011076	0.67	0.67	6	CF	0.9	0.9
<i>Microtendipes</i>	09021011094		0.33	6	CF		0.4
<i>Microtendipes pedellus group</i>	09021011094166	0.33			--	0.4	
<i>Phaenopsectra</i>	09021011101		0.33	7	SC		0.4
<i>Phaenopsectra punctipes group</i>	09021011101181	0.33			--	0.4	
<i>Dubiraphia</i>	09021113064	11.33	11.33	6	--	15.1	15.1
<i>Optioservus</i>	09021113067	16.67	17.67	3	SC	22.2	23.6
<i>Optioservus ovalis</i>	09021113067046	1.00			--	1.3	
<i>Stenelmis</i>	09021113070	1.00	1.00	5	SC	1.3	1.3
Acariformes	090301	0.33	0.33		--	0.4	0.4



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Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Stagnicola</i>	10010201025	3.33	3.33		--	4.4	4.4
<i>Physa</i>	10010202027	11.00	11.00		SC	14.7	14.7
<i>Gyraulus</i>	10010203029	0.33	0.33		SC	0.4	0.4